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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/937,898	01/07/2002	Andrew Goldsborough	1181-255	5516

6449 7590 07/30/2003

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EXAMINER
CHAKRABARTI, ARUN K

ART UNIT	PAPER NUMBER
1634	

DATE MAILED: 07/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)
09/937,898	Goldsborough
Examiner	**Art Unit**
Arun Chakrabarti	1634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *Jun 20, 2003* .

2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-30* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
4) ☐ Interview Summary (PTO-413) Paper No(s). _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☒ Other: *Detailed Action*

DETAILED ACTION

Status of the Application

1. The amendment received on June 20, 2003 has been entered. Claims 19 and 20 are newly amended and claims 29-30 newly added. Claims 1-30 are pending and under consideration.

Claim Rejections - 35 USC § 103

2. Claims 19-20, newly amended, and claims 29-30, newly added, are rejected, and claims 1-18 and 21-28 remain rejected under 35 USC 103 (a), for the reasons of record as set forth at pages 2-9 of the Office Action mailed on 24 February 2003.

Response to Amendment

3. In response to amendment, 112 (second paragraph) rejection against claims 19-20 is hereby withdrawn. However, 103(a) rejections have been properly maintained.

Response to Arguments

4. Applicant's arguments filed on June 20, 2003 to withdraw all 103 (a) rejections have been fully considered but they are not persuasive.

Applicant argues (Page 7, second paragraph to page 8, line 9) that Monforte et al reference does not teach the enzymatic cleavage of nucleotides of the claimed invention. Applicant also argues in the same section that the word "enzymatic cleavage" was not found in

Monforte reference and only the word "chemical" or "non-enzymatic cleavage" are found and therefore Monforte "teaches away" from the claimed invention. Applicant argues that because Monforte has a preferred embodiment of "chemical" or "non-enzymatic cleavage", Monforte is limited to the preferred embodiment. This argument is not persuasive. As MPEP 2123 states "Disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or nonpreferred embodiments. In re Susi,169 USPQ 423 (CCPA 1971)." MPEP 2123 also states " A reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill the art, including nonpreferred embodiments. Merck & Co. v. Biocraft Laboratories , 10 USPQ2d 1843 (Fed. Cir. 1989)." It is clear that simply because Monforte has a preferred embodiment, this embodiment does not prevent the reference from suggesting broader embodiments in the disclosure and that this does not constitute a teaching away. Although Monforte reference uses chemical or non-enzymatic cleavage to cleave the nucleotides, the property of enzymatic cleavage is inherently present in this chemically and structurally identical molecule. For example, Monforte clearly teaches that such cleavage can be carried out by the enzyme exonuclease (Column 6, lines 34-37).

Applicant also argues (Page 8, first paragraph, and last paragraph to page 9, line 3) that Monforte reference does not teach the enzyme DNA glycosylase. This argument is not persuasive. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re*

Merck & Co., 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). It was clearly mentioned in the last office action that Sutherland et al reference (U.S. Patent 5,700,642) teaches the enzyme DNA glycosylase.

Applicant then argues (Page 8, second paragraph) there is no suggestion or motivation to combine the Monforte and Sutherland references and Sutherland's motivation to use the enzyme DNA glycosylase is different from the claimed invention. This argument is not persuasive. Sutherland provides strong motivation as Sutherland et al. state, "The glycosylase useful in the present invention are those that specifically cleave unconventional bases, i.e., bases other than A,G,C or T in DNA and A,G,C and U in RNA (Column 9, lines 4-6)". Sutherland et al further state, "The most preferred glycosylase in accordance with the present invention is UNG. UNG is commercially available. UNG catalyzes the excision of uracil from single or double-stranded DNA (Column 9, lines 17-21)." Similar logic is applicable to the applicant's argument (Page 10, first and third paragraph) regarding lack of motivation. In response to applicant's argument that Sutherland's motivation to use the enzyme DNA glycosylase is different from the claimed invention, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

Applicant also argues (Page 9, lines 6-12) that 103 (a) rejections should be withdrawn because it is based on improper hindsight reasoning. This argument is not persuasive. In response

to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). In this case, the knowledge of cleaving bases from solid support was clearly within the level of ordinary skill at the time the claimed invention was made, as clearly disclosed by Monforte et al.

Applicant also argues (Page 10, lines 2-5) that there is no reasonable expectation of success even if the references are combined. This argument is not persuasive. There is no evidence of record submitted by applicant demonstrating the absence of a reasonable expectation of success. There is evidence in the Monforte reference of the enabling methodology, the suggestion to modify the prior art, and evidence that a number of different unconventional nucleotides were actually experimentally studied and cleaved in different methods including enzymatic cleavage as mentioned above and found to be functional (Column 6, lines 34-37). This evidence of functionality trumps the attorney arguments, which argues that Monforte reference is an invitation to research, since Monforte steps beyond research and shows the functional product.

Therefore, all the 103(a) rejections made in the first office action are hereby maintained.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CAR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CAR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arun Chakrabarti, Ph.D. whose telephone number is (703) 306-5818. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion, can be reached on (703) 308-1119. Any inquiry of a general nature or relating to the status of this application should be directed tithe Group analyst Chantae Dessau whose telephone number is (703) 605-1237. Papers related to this application may be submitted to Technology Center 1600 by facsimile transmission via the P.T.O. Fax Center located In Crystal Mall 1. The CM1 Fax Center numbers for Technology Center 1600 are either (703) 305-3014 or

(703) 308-4242. Please note that the faxing of such papers must conform with the Notice to Comply published In the Official Gazette, 1096 OG 30 (November 15, 1989).

Arun Chakrabarti

Patent Examiner

Art Unit 1634

July 23, 2003

GARY BENZION, PH.D
SUPERVISORY PATENT EXAMINER
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